

## **SUPPLEMENTARY MATERIALS**

**Manuscript title: Quantitative modelling of hip fracture trends in 14 European countries:  
testing variations of a shared reversal over time**

**Authors: Raquel Lucas<sup>1,2</sup>, PhD; Ana Martins<sup>1,2</sup>, MSc; Milton Severo<sup>1,2</sup>, PhD; Poliana Silva<sup>1</sup>,  
MSc; Teresa Monjardino<sup>1,2</sup>, MSc, Ana Rita Gaio<sup>3</sup>, PhD, Cyrus Cooper<sup>4,5</sup>, PhD, FMedSci;  
Henrique Barros<sup>1,2</sup>, MD PhD**

### **Affiliations:**

1. EPIUnit – Institute of Public Health, University of Porto, Porto, Portugal
2. Department of Clinical Epidemiology, Predictive Medicine and Public Health, University of Porto Medical School, Porto, Portugal
3. Department of Mathematics, Faculty of Sciences, University of Porto, Porto, Portugal
4. MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, UK
5. Southampton General Hospital, Southampton, UK

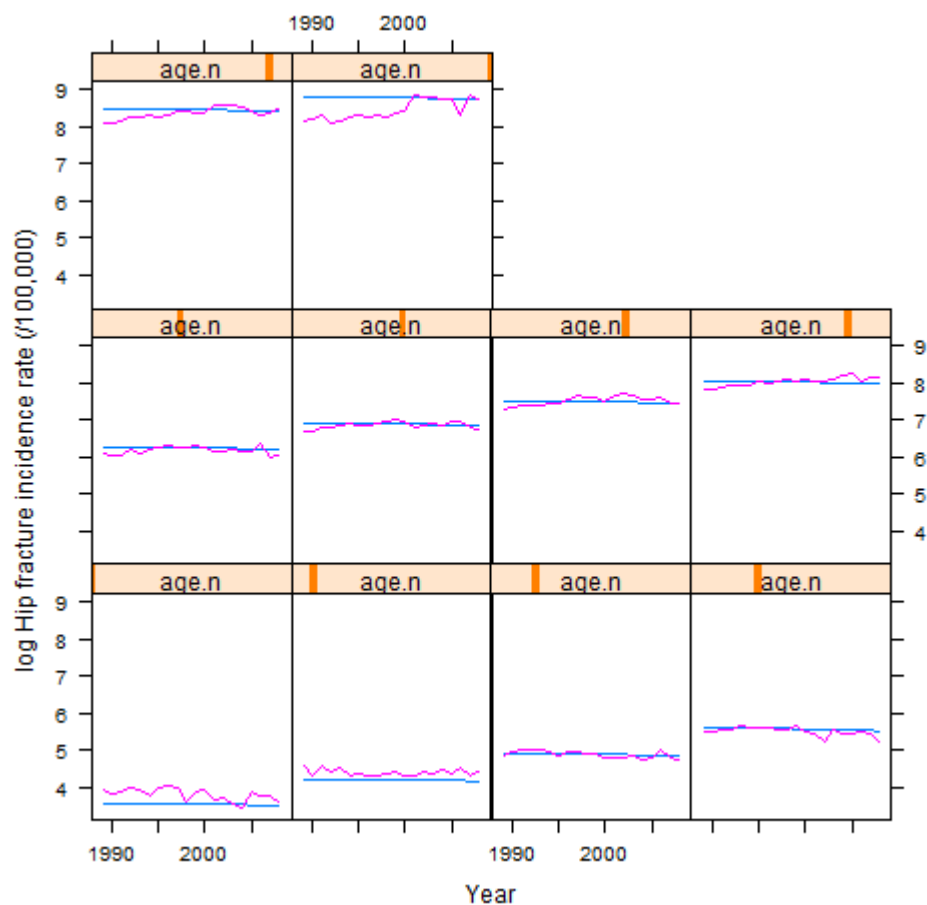
### **Corresponding author:**

Raquel Lucas  
Institute of Public Health, University of Porto  
Rua das Taipas, 135  
4050 600 Porto, Portugal  
Email: [rlucas@med.up.pt](mailto:rlucas@med.up.pt)  
Office phone: +351222061820; Mobile: +351962860846

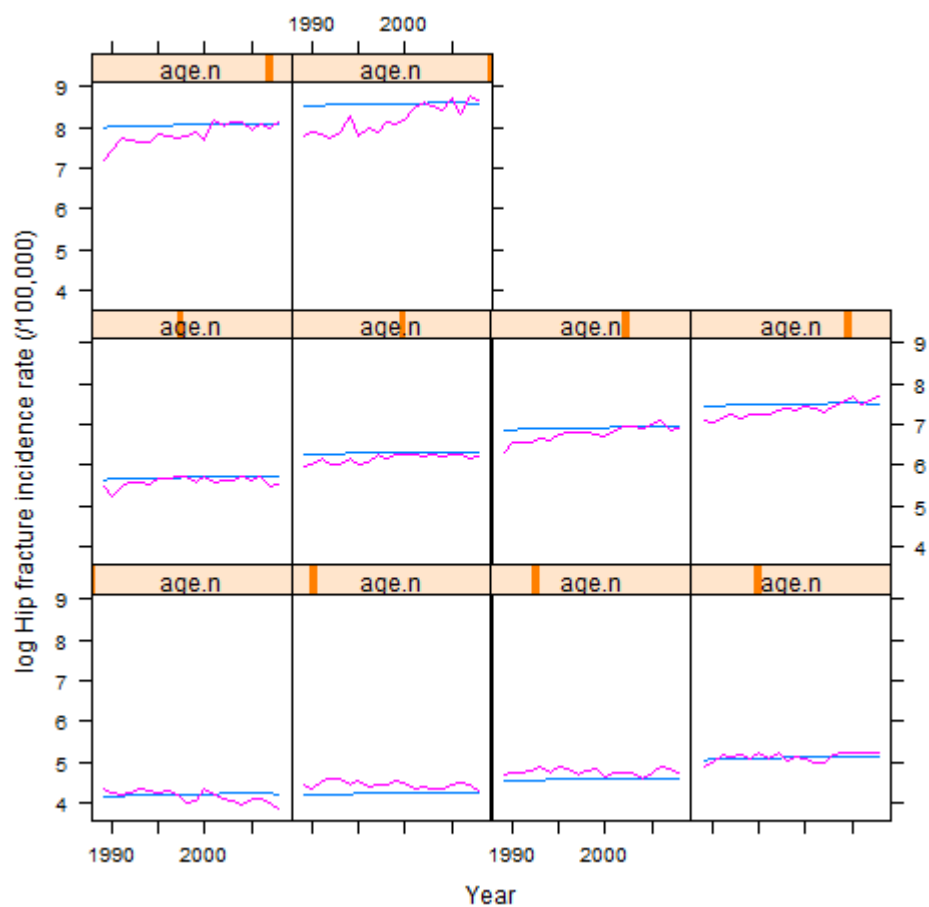
**Supplementary figures 1 to 28: Observed and predicted hip fracture incidence rates by age group, sex and country.**

**Supplementary figures 29 and 30: Bayesian information criteria for different cluster solutions in women and men.**

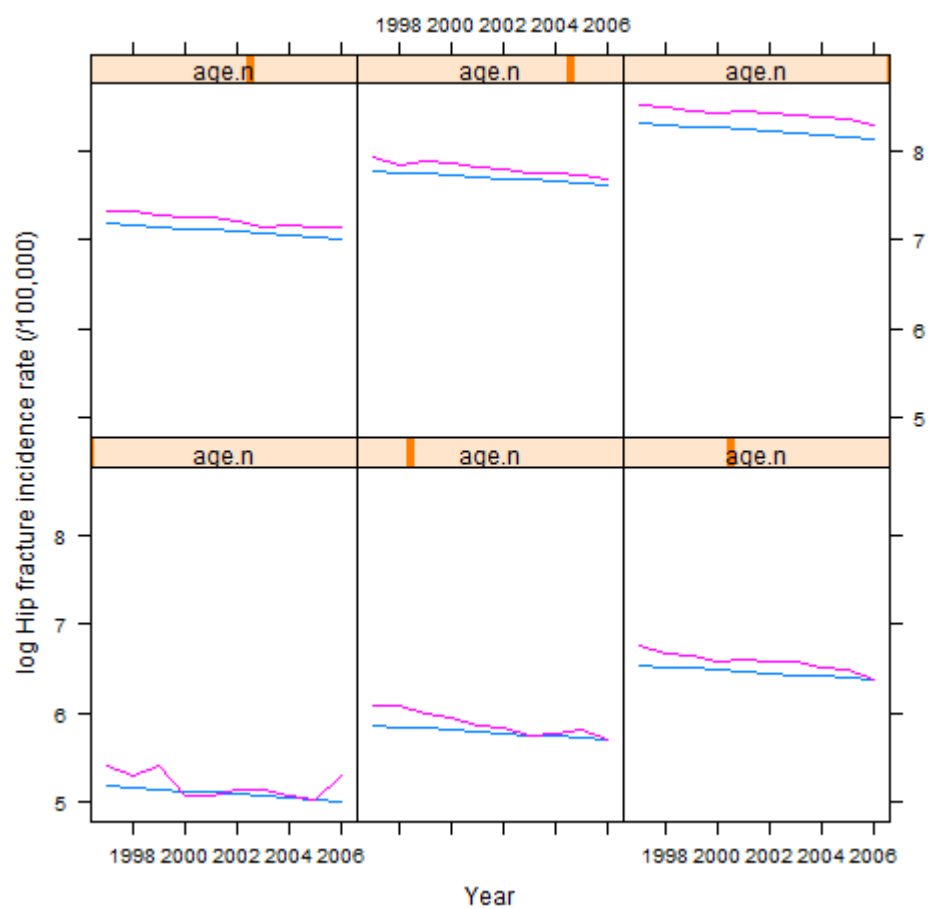
Supplementary figure 1. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Austria - women



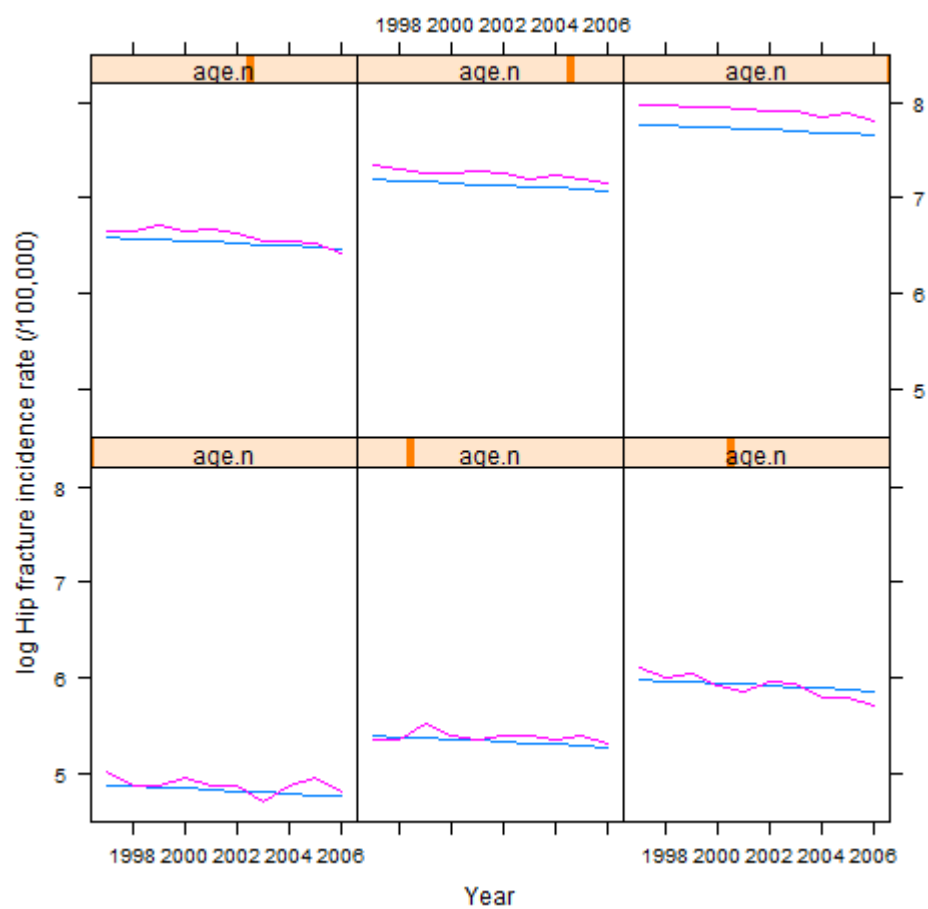
Supplementary figure 2. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Austria – men



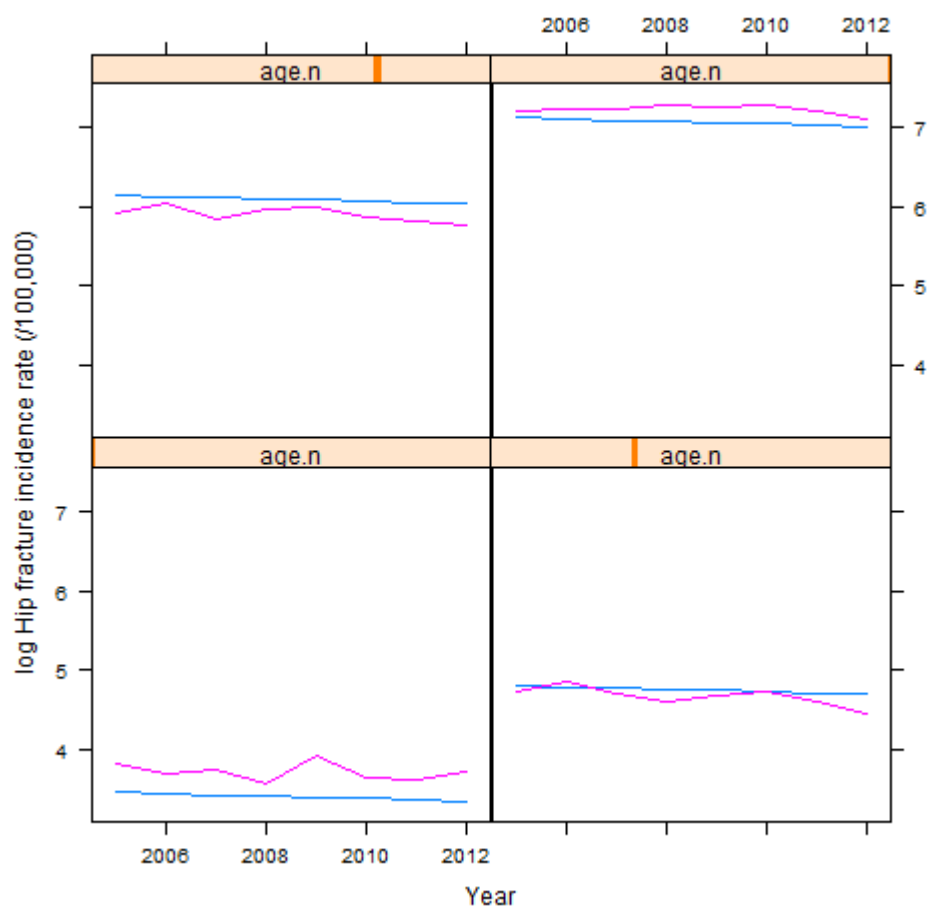
Supplementary figure 3. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Denmark – women



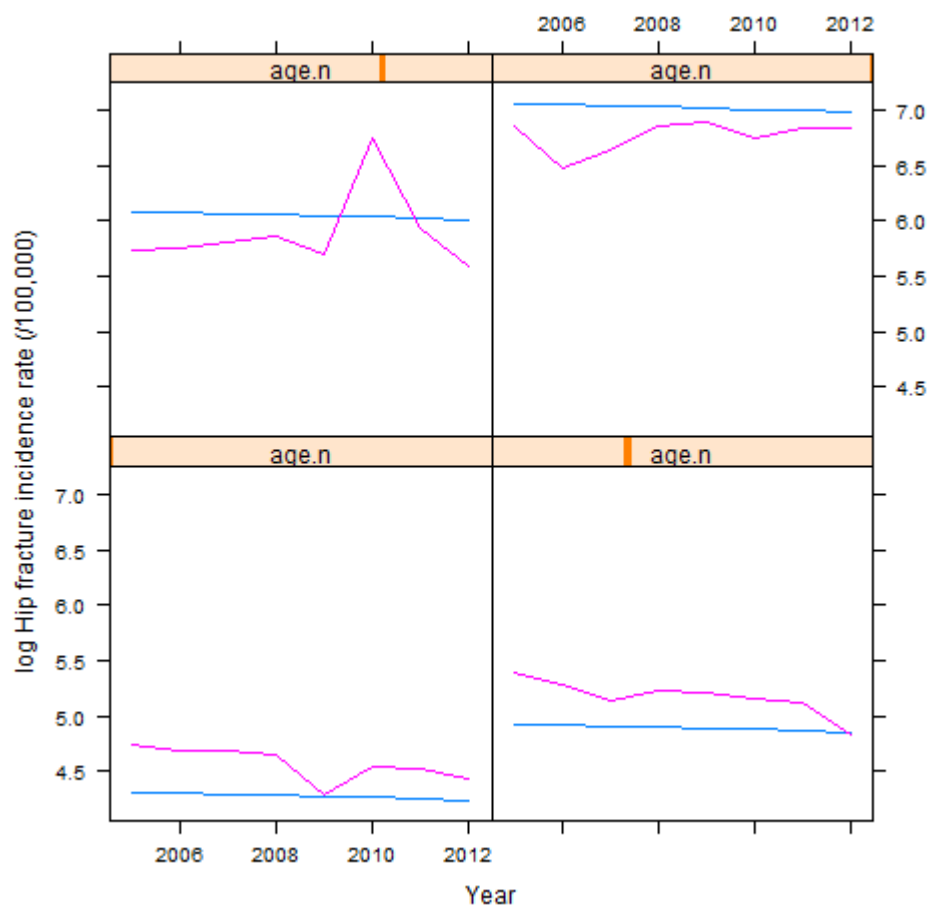
Supplementary figure 4. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Denmark – men



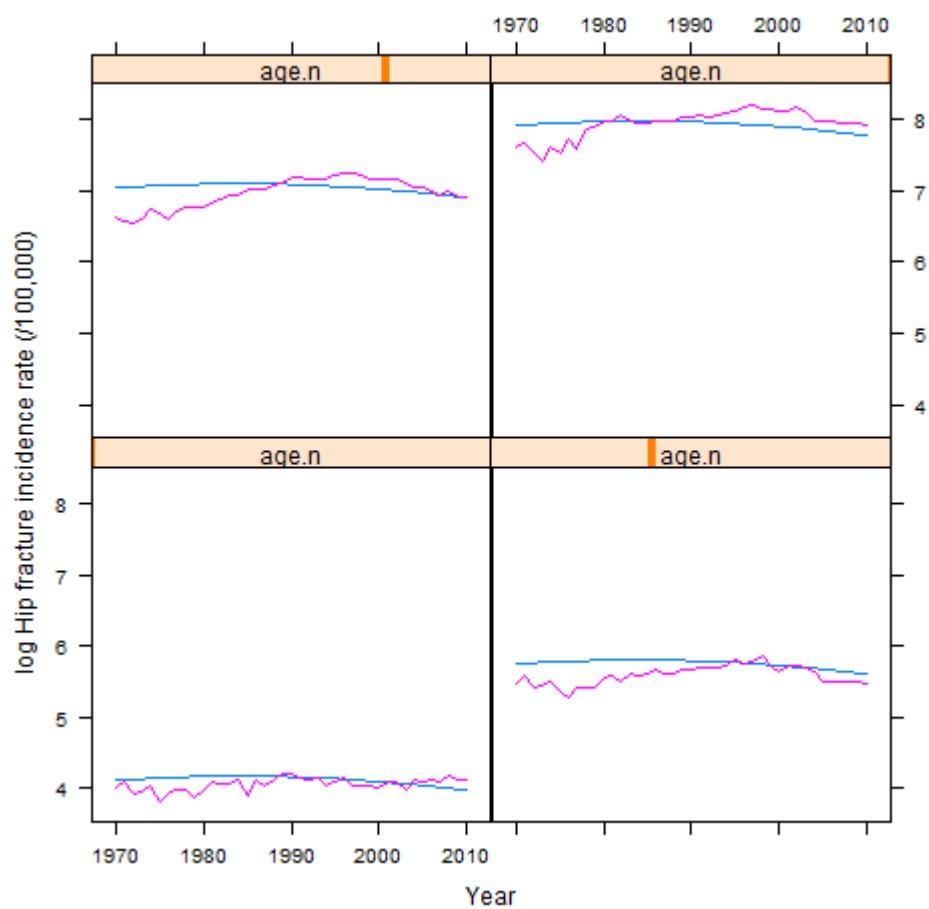
Supplementary figure 5. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Estonia – women



Supplementary figure 6. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Estonia – men

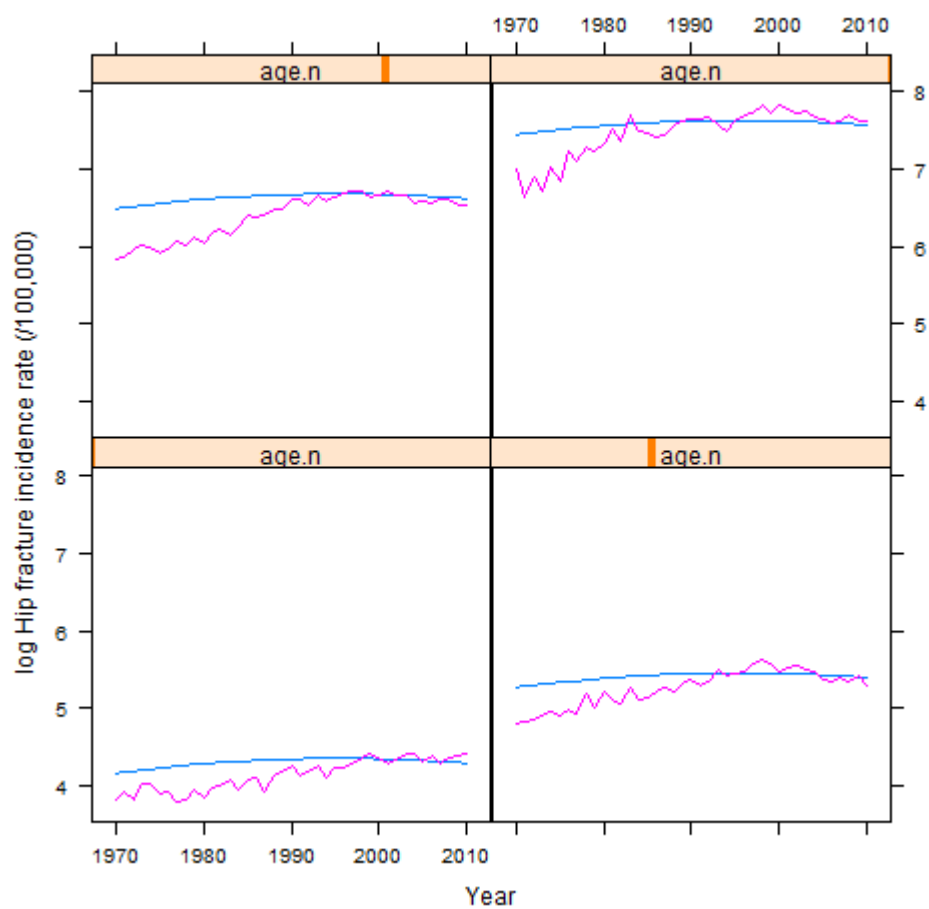


Supplementary figure 7. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Finland – women

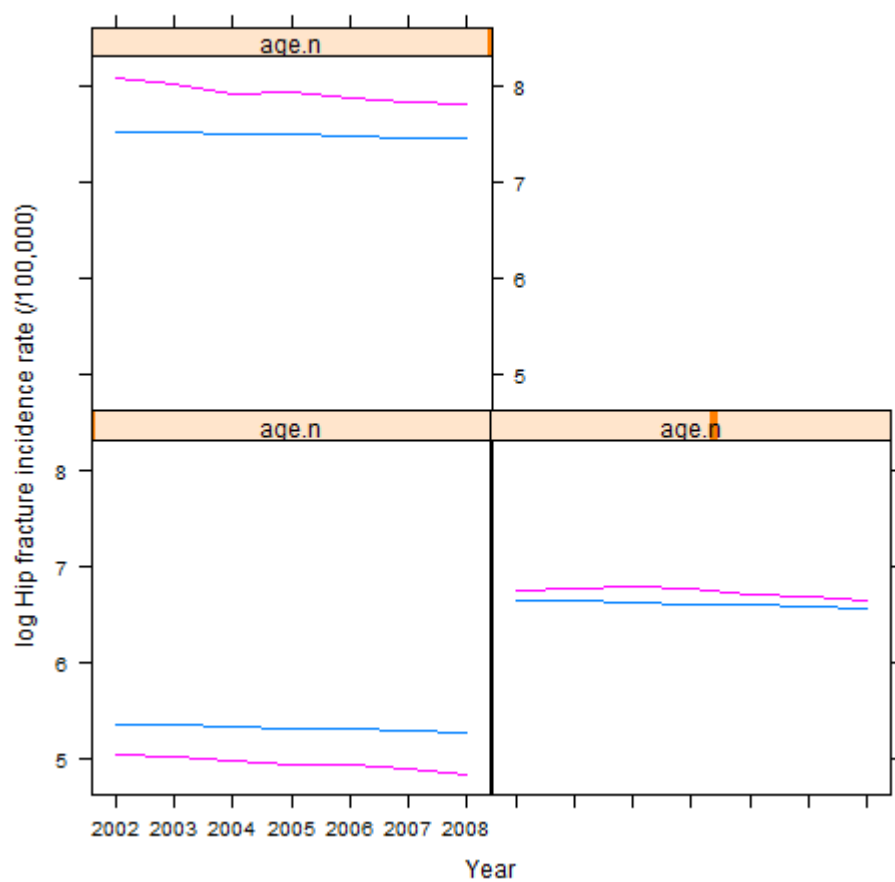




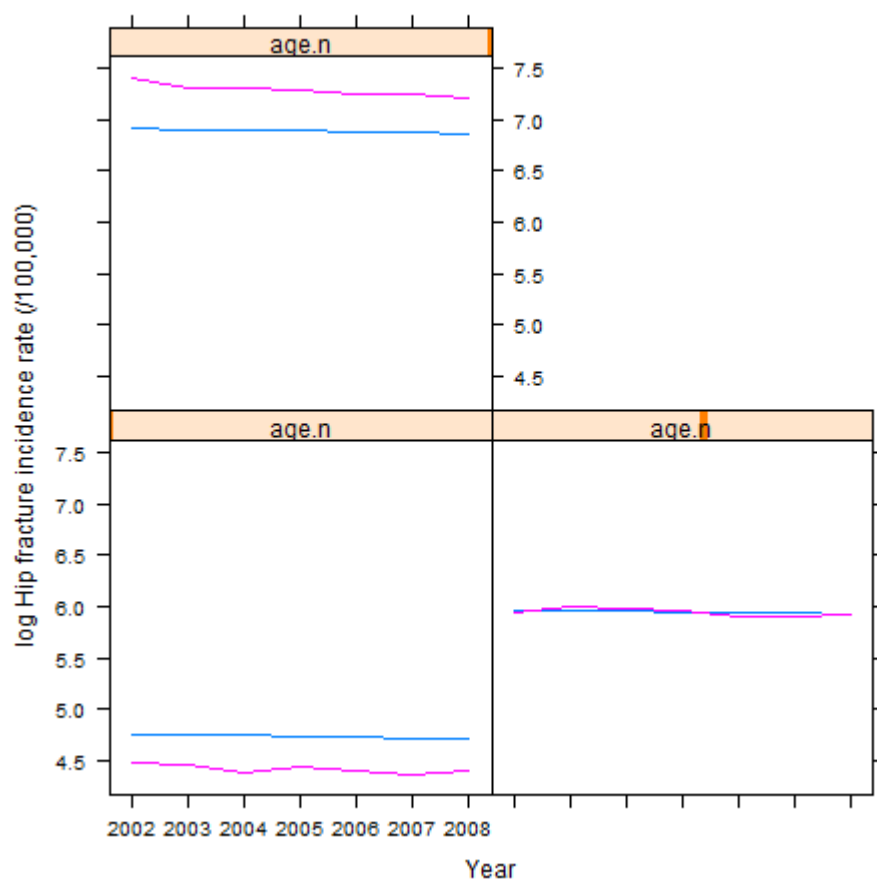
Supplementary figure 8. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Finland – men



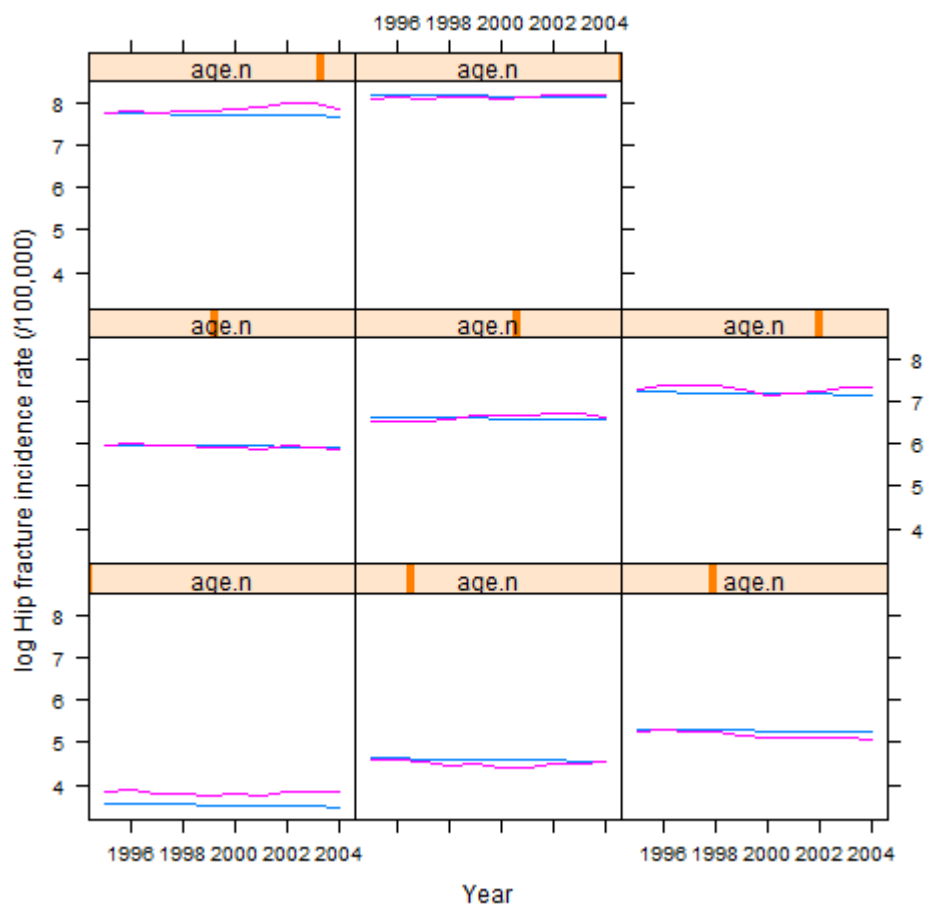
Supplementary figure 9. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), France – women



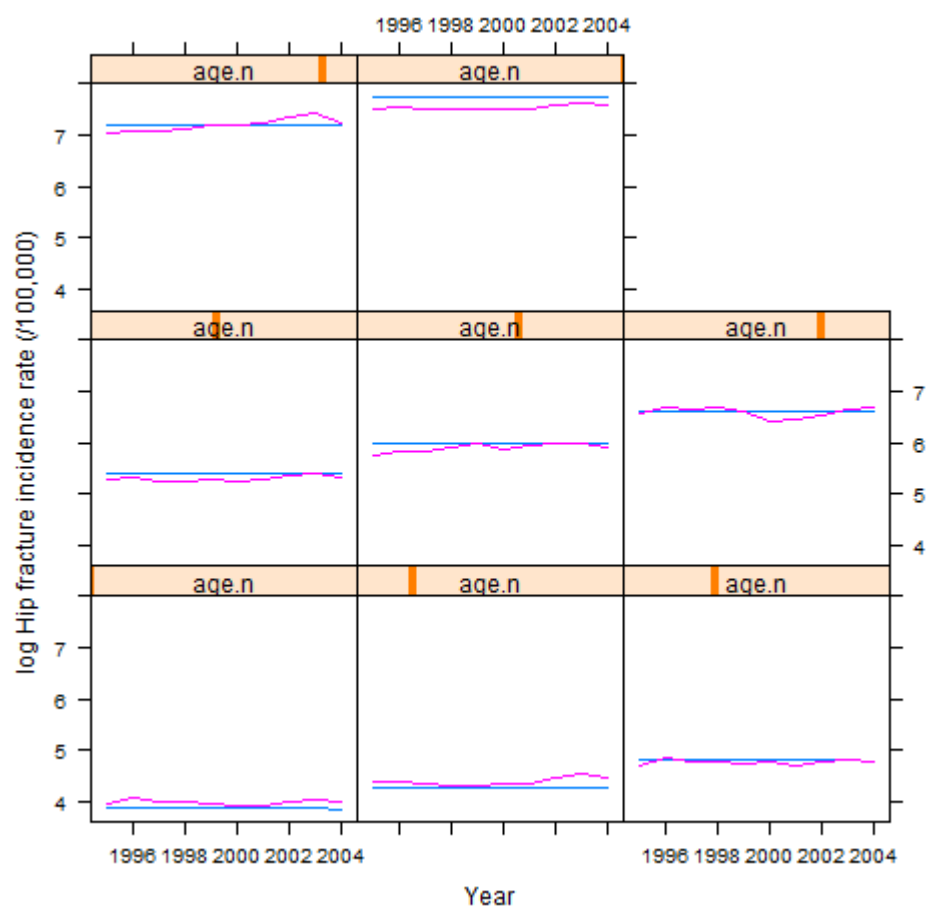
Supplementary figure 10. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), France – men



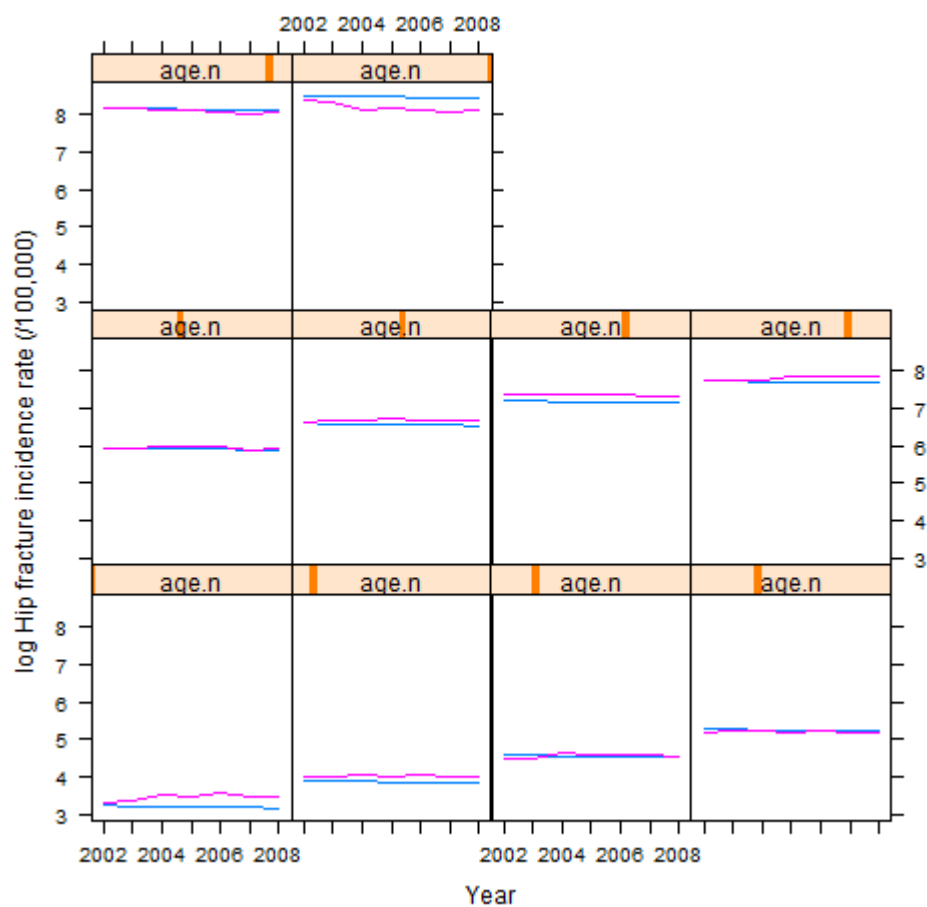
Supplementary figure 11. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Germany – women



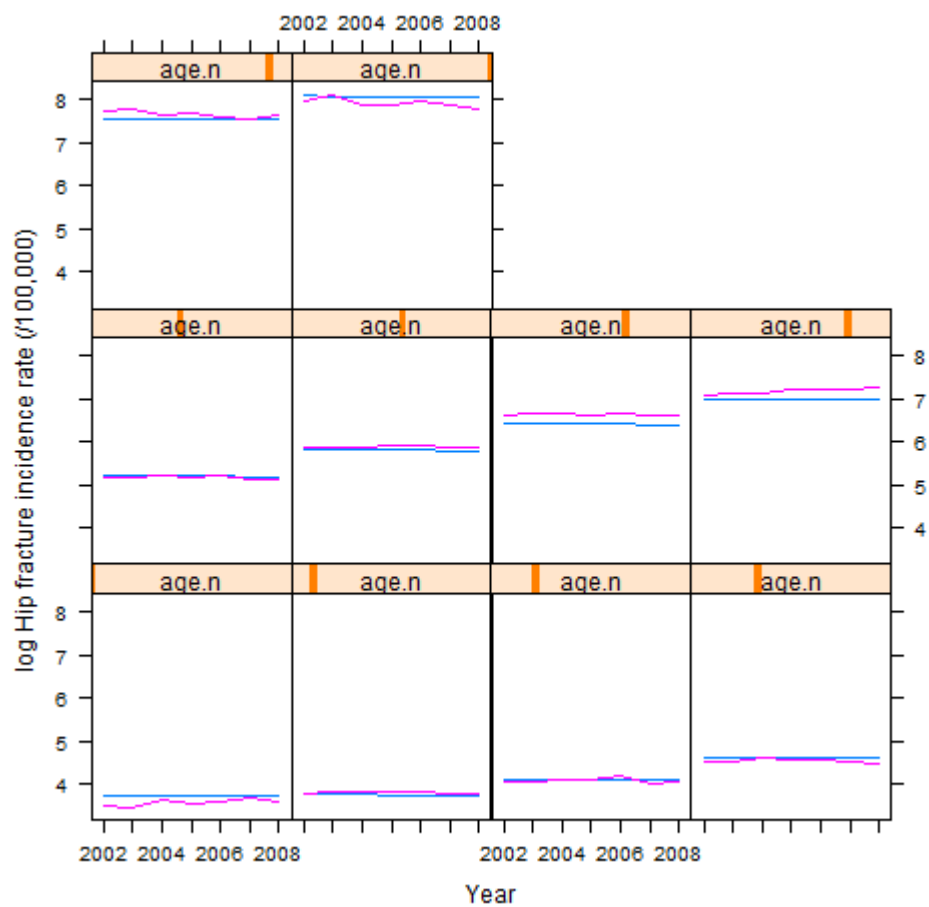
Supplementary figure 12. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Germany – men



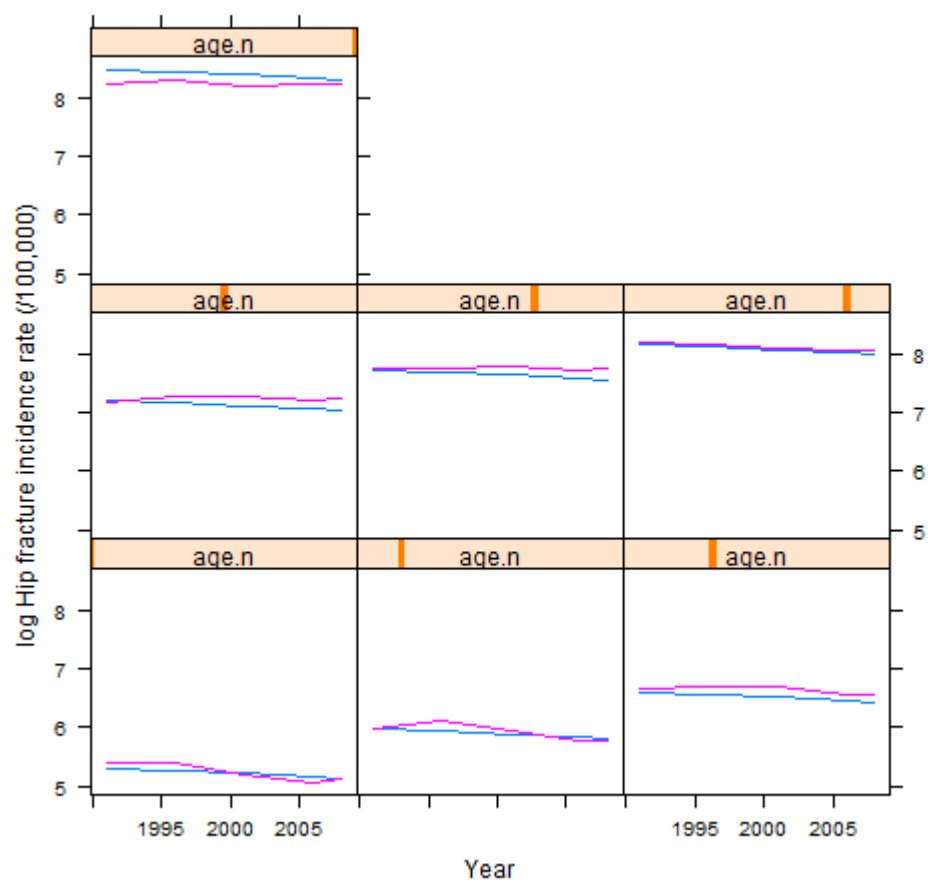
Supplementary figure 13. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Italy – women



Supplementary figure 14. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Italy – men

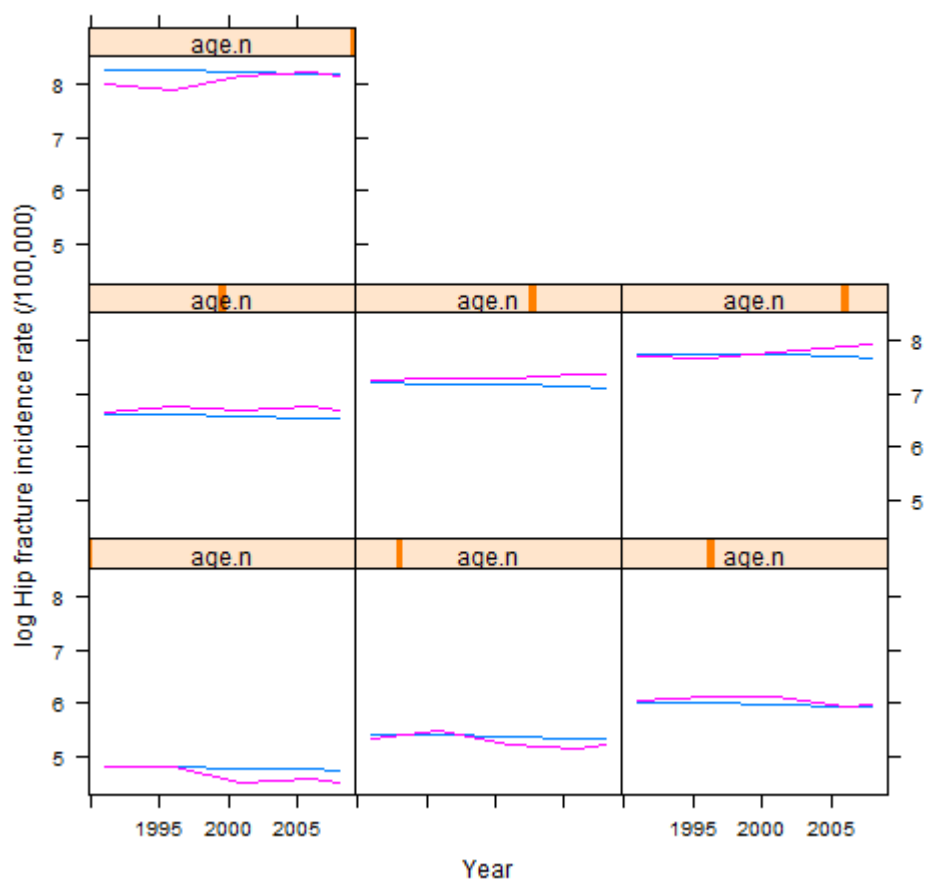


Supplementary figure 15. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Netherlands – women

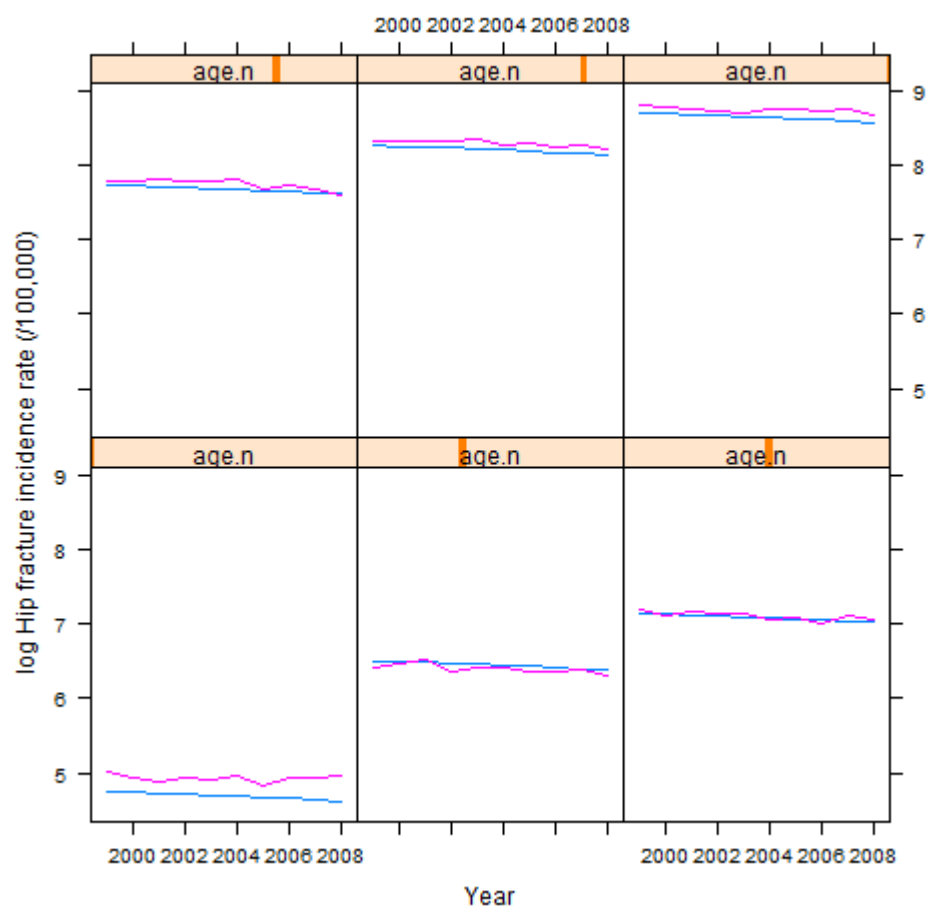




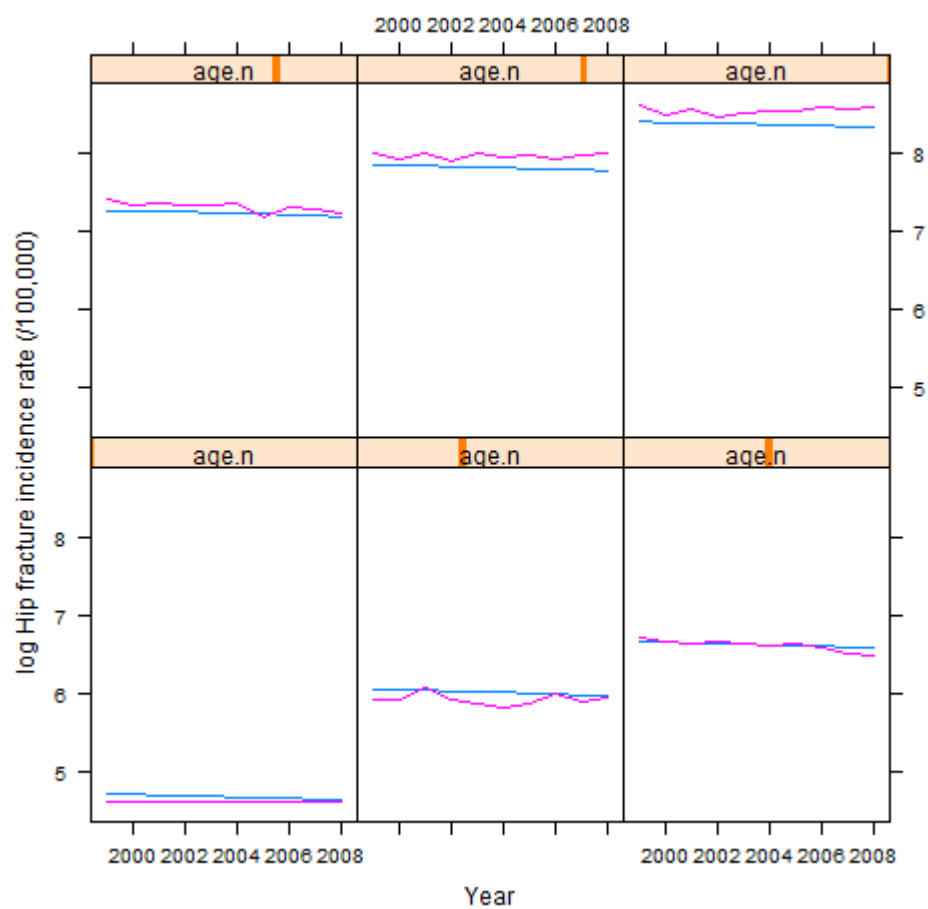
Supplementary figure 16. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Netherlands – men



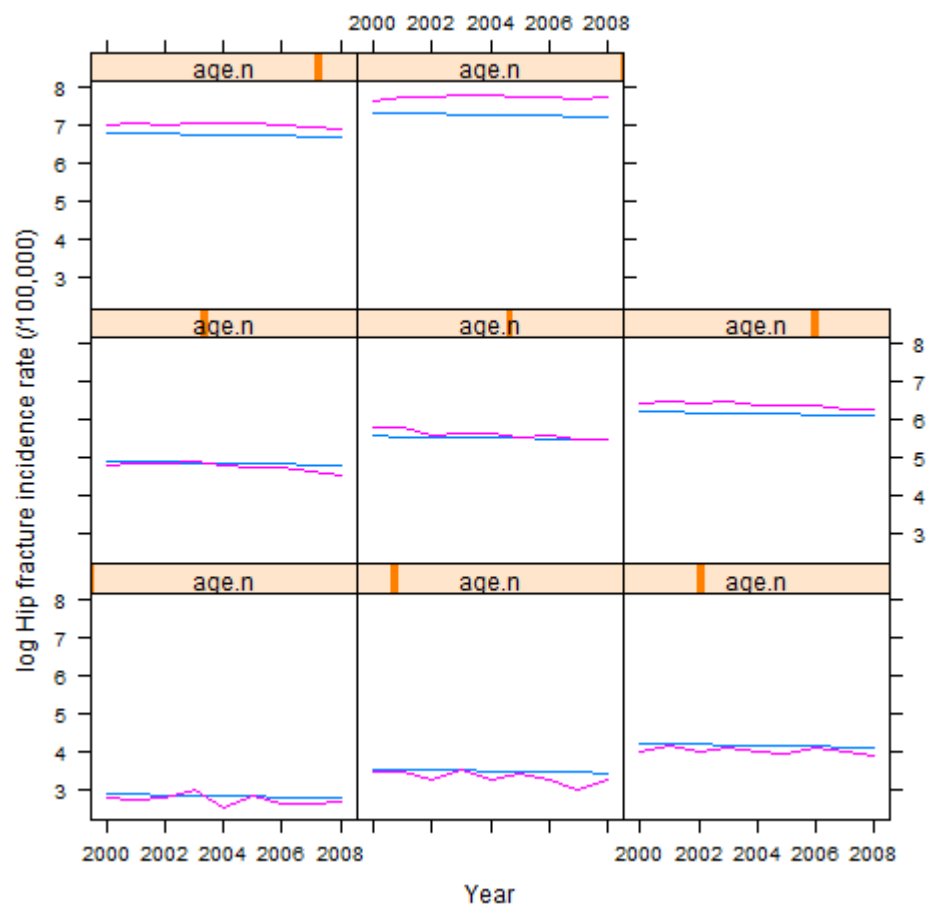
Supplementary figure 17. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Norway – women



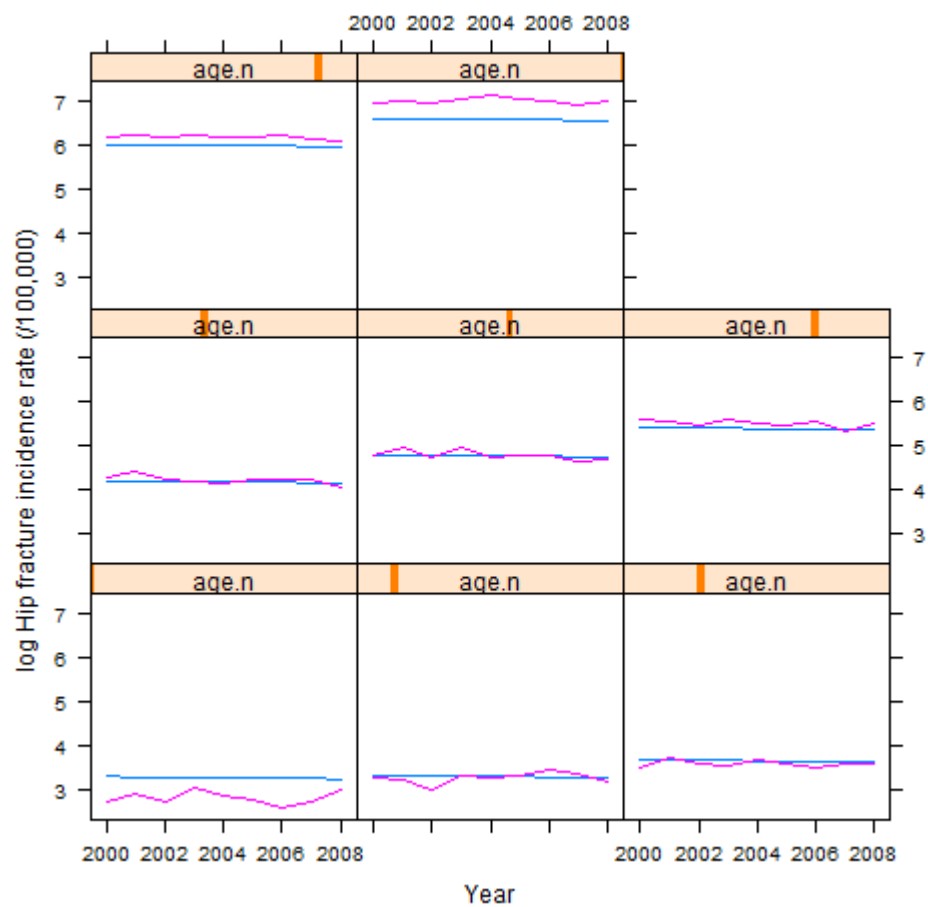
Supplementary figure 18. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Norway – men



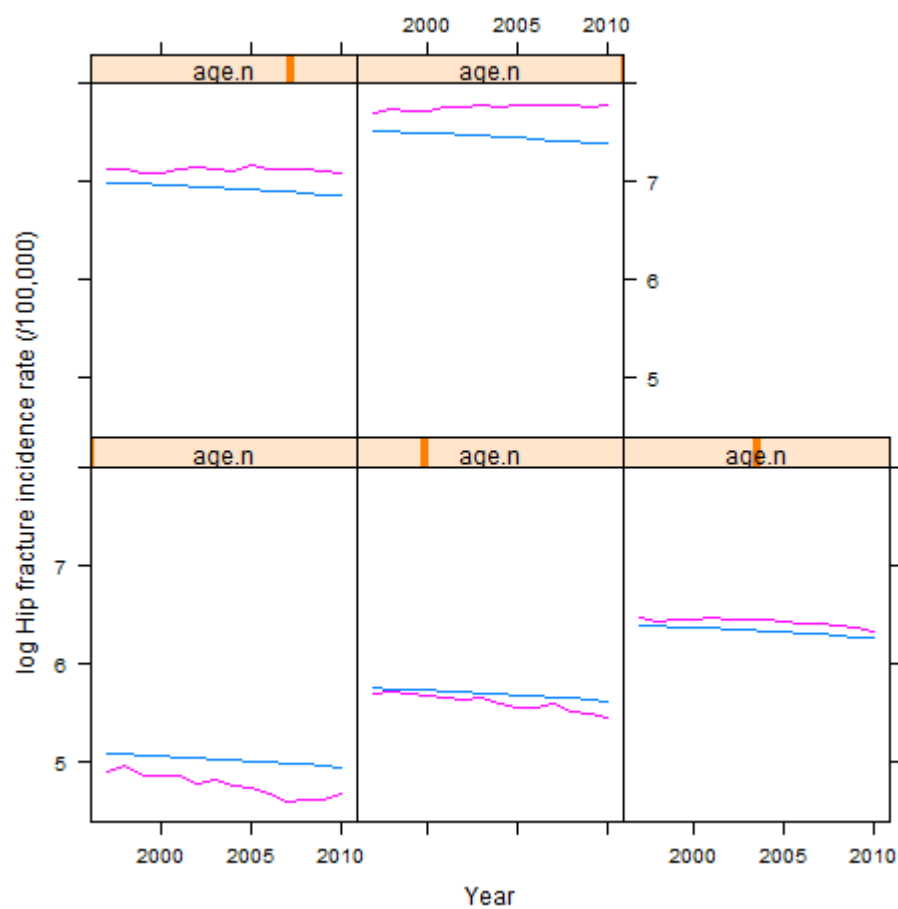
Supplementary figure 19. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Portugal – women



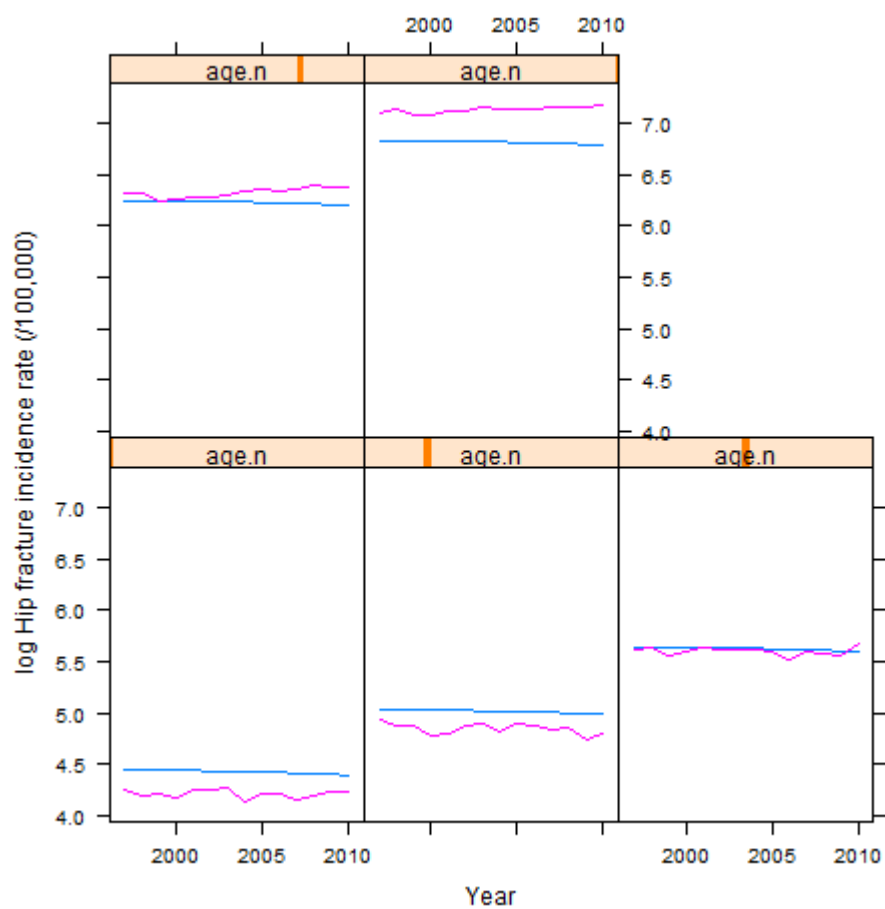
Supplementary figure 20. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Portugal – men



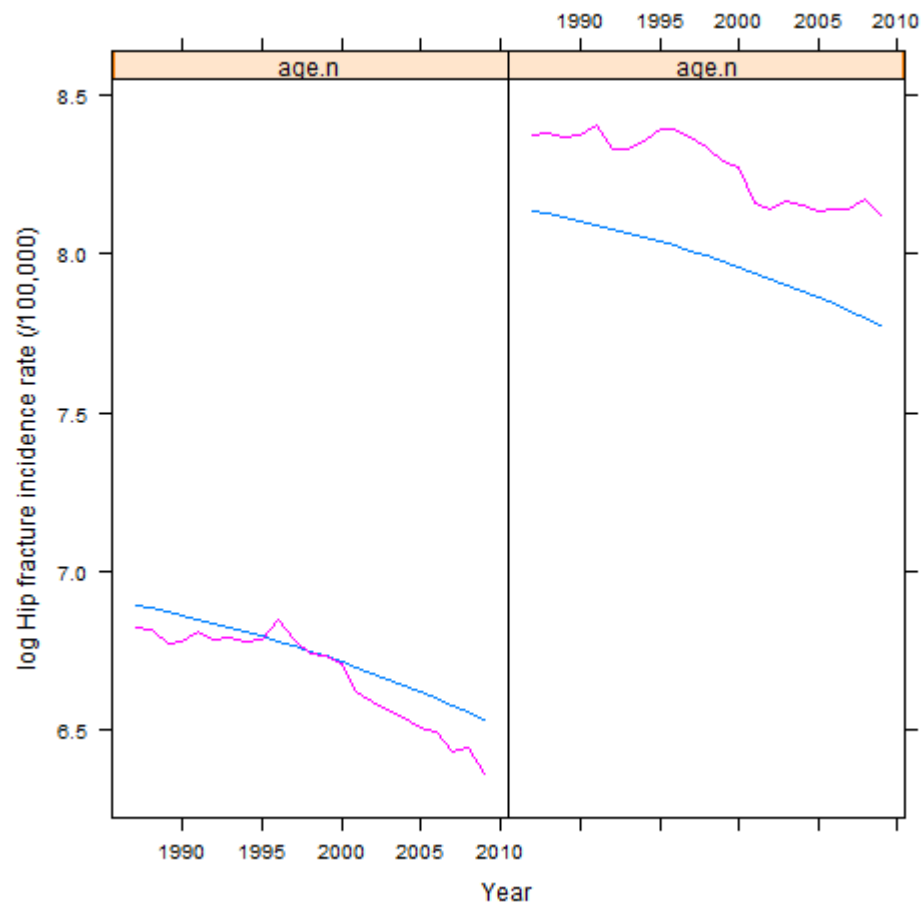
Supplementary figure 21. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Spain – women



Supplementary figure 22. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Spain – men

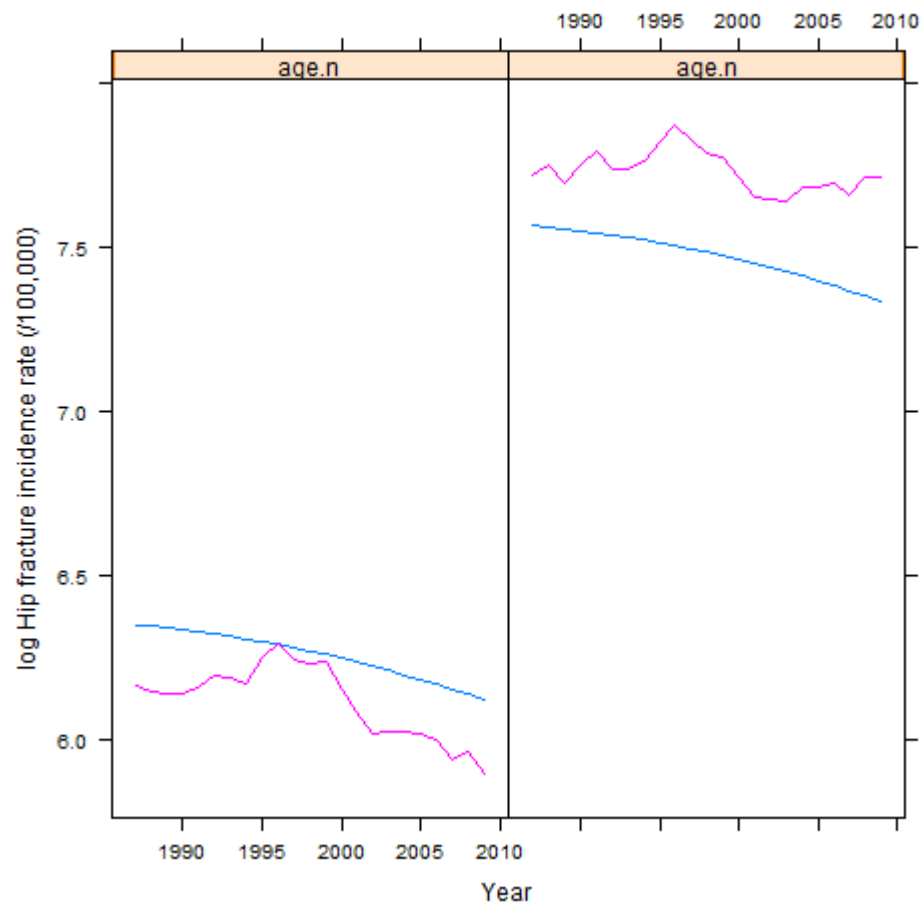


Supplementary figure 23. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Sweden – women

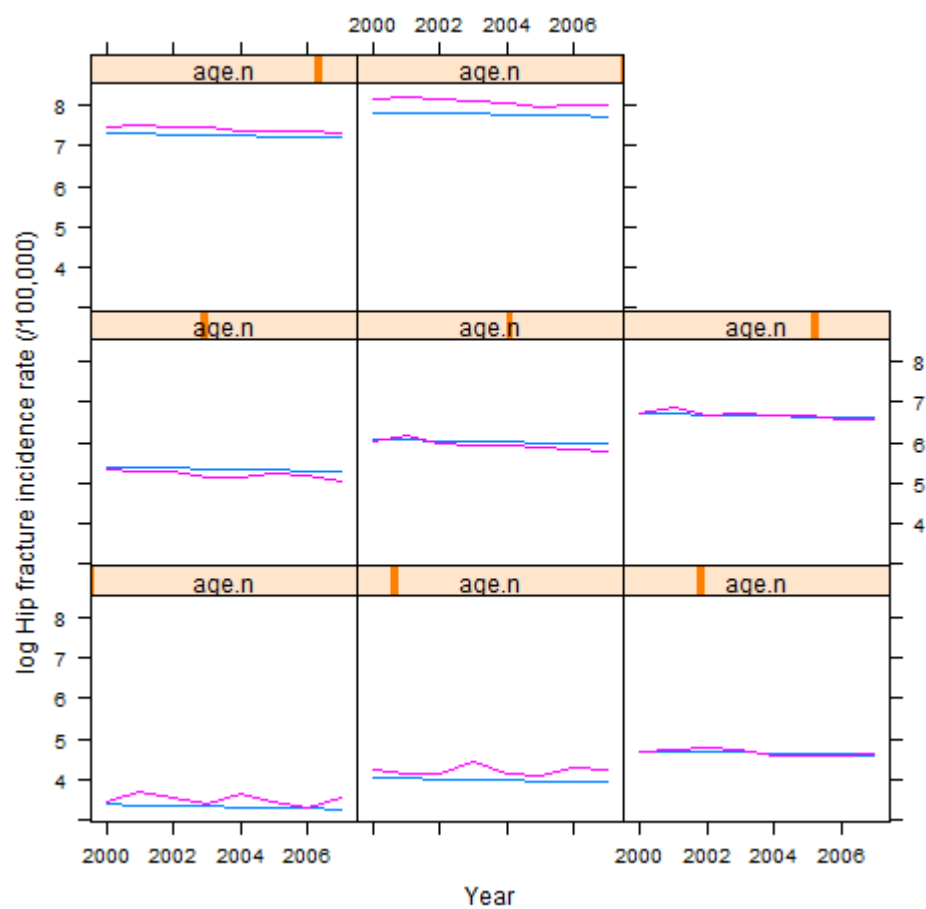




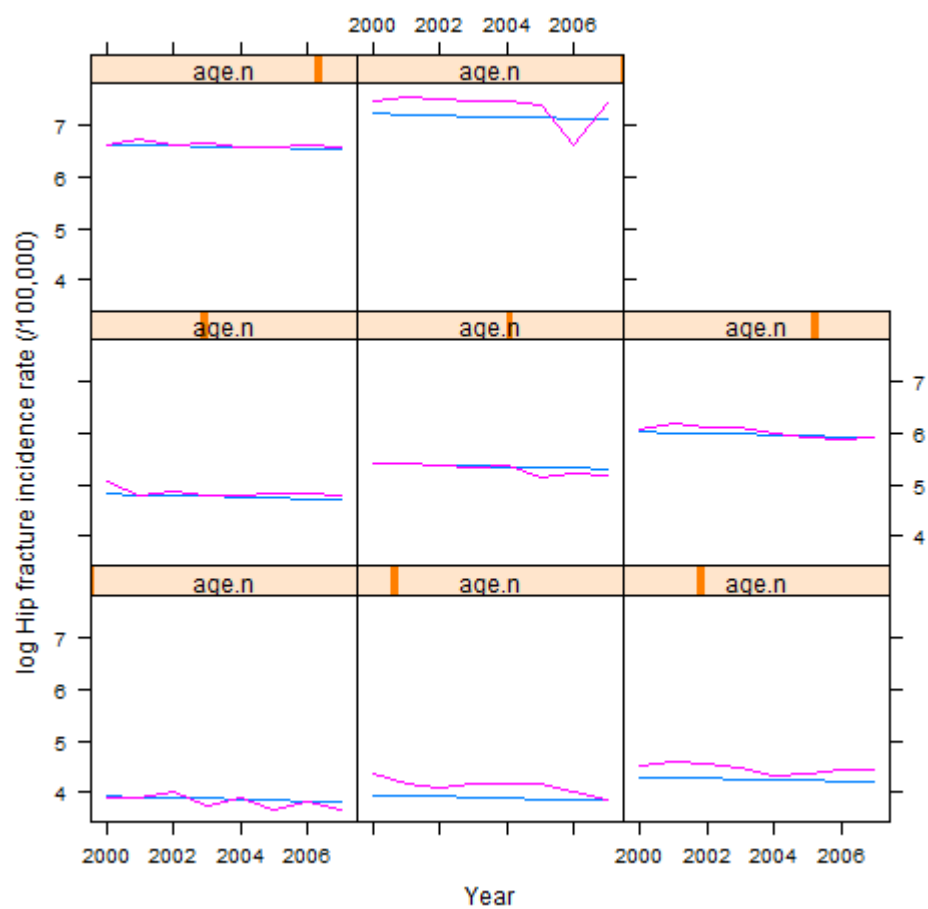
Supplementary figure 24. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Sweden – men



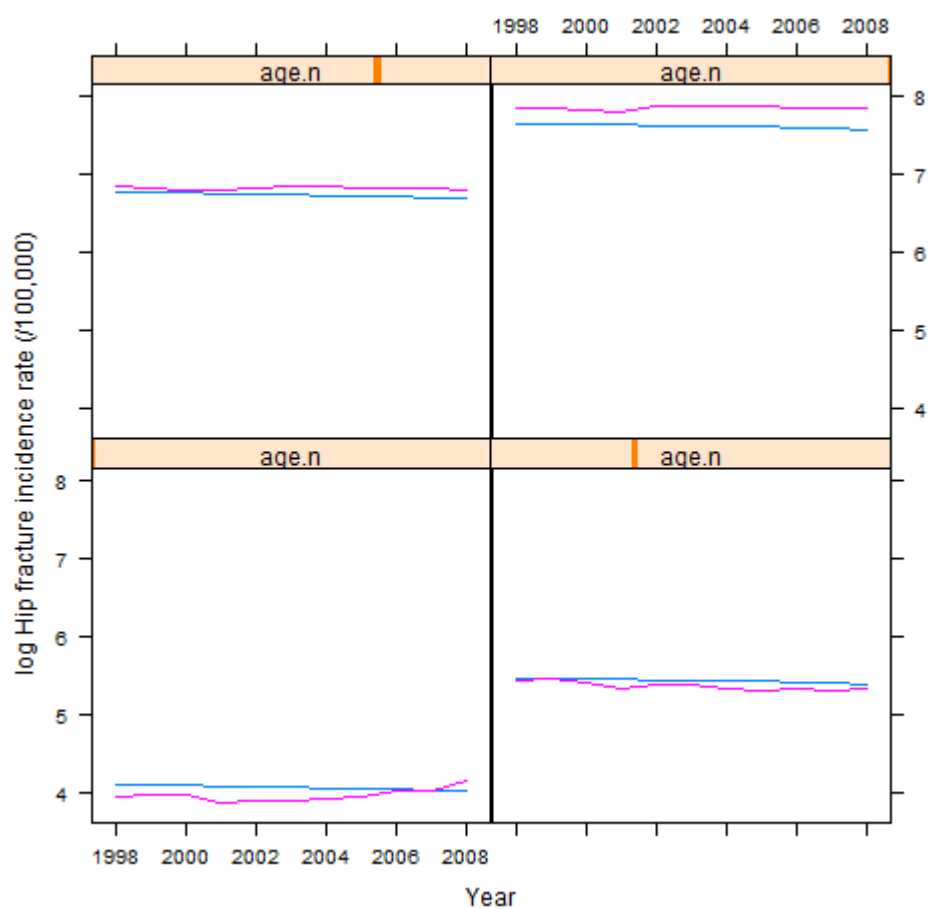
Supplementary figure 25. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Switzerland – women



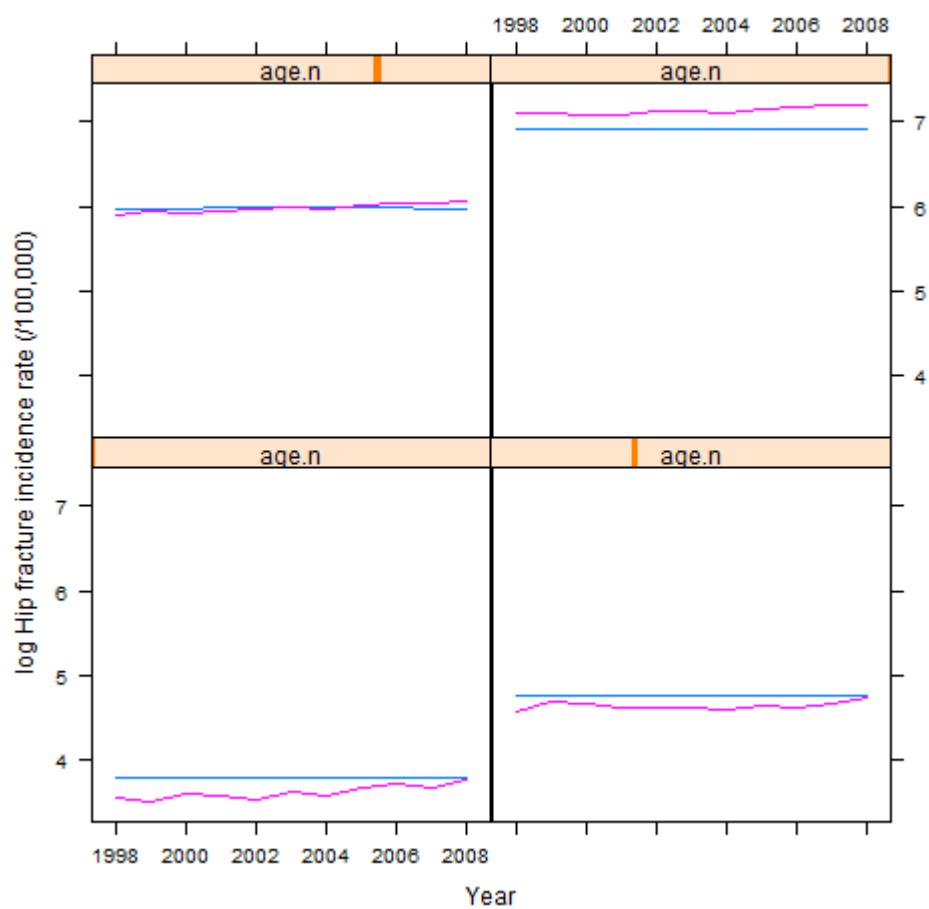
Supplementary figure 26. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), Switzerland – men



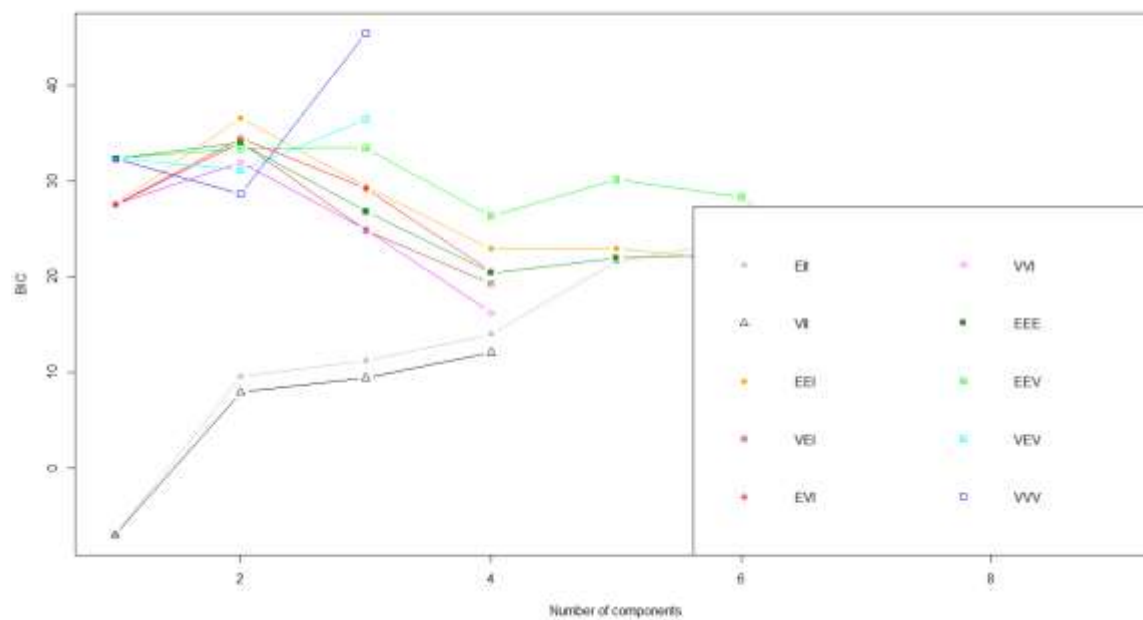
Supplementary figure 27. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), UK (England) – women



Supplementary figure 28. Observed (red) and predicted (blue) hip fracture incidence rates by age group (from bottom left to top right), UK (England) – men



Supplementary figure 29. Bayesian Information Criteria for different cluster solutions (women)



Supplementary figure 30. Bayesian Information Criteria for different cluster solutions (men)

